

TITLE OF INVENTION

A Method for Manufacturing and Installing a Prefabricated Hardwood Floor

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] Not Applicable

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] Not Applicable

BACKGROUND OF THE INVENTION

1. Field of Invention

[0003] This invention pertains to a floor and a method for manufacturing and installing the floor. More particularly, this invention pertains to the fabrication of a hardwood floor manufactured at a remote location and the integration of the hardwood floor into an existing structure.

2. Description of the Related Art

[0004] Hardwood flooring is a desired amenity for many homes and offices, not only for its aesthetic value, but also for its durability and maintenance characteristics. Hardwood floors are typically installed one plank at a time by nailing, stapling, or gluing each plank to a sub-flooring. The chore of securing each plank to the sub-floor with nails, staples, or glue makes the installation of hardwood floors very tedious and time consuming. Additionally, installing a hardwood floor as described results in a substantially permanent installment. Consequently, if a reason to remove the floor arises, the task would be difficult if not impossible.

[0005] A conventional solution to providing a non-permanent hardwood floor is to install a floating floor. A floating floor is not nailed, stapled, glued, or secured to the sub-flooring in any manner. Therefore, in order to stabilize the planks of a

floating floor and to maintain the expected solidity of a floor, the planks of a floating floor are typically glued to one another, and the floating floor simply rests on top of the sub-flooring. This solution is limited in that each hardwood plank must be individually installed and secured to adjacent planks. Additionally, when a force that includes a component that is parallel to the surface of the sub-flooring is imposed on the floating floor, such as the force imposed by an individual walking on the floor, the entire floor slips on the sub-flooring and moves from its designed position.

[0006] An attempt to provide an easy-to-install hardwood floor that is not a permanent installment and is not subject to slipping on sub-flooring under typical forces is given in U.S. Patent Number 5,941,047 issued to Johansson. The Johansson patent teaches a floor that utilizes two friction layers. A first friction layer is disposed at the sub-flooring at the desired location of the hardwood floor. A second friction layer is disposed on the bottom of each plank of the hardwood floor. A film is provided to conceal the first friction layer from the second friction layer such that each plank is able to be maneuvered into its desired position. Once the planks are in their desired positions, the film is removed from the first friction layer and the second friction layer such that the first friction layer and the second friction layer are mechanically engaged to the extent that the floating floor does not slip on the sub-flooring. Although this type of conventional floor does not slip on the sub-flooring, it is limited in that it requires the installation of a friction layer at the sub-flooring and that each plank must be installed individually.

[0007] Another attempt to provide an easy-to-install hardwood floor that is not subject to slipping on sub-flooring under typical forces is given in U.S. Patent Number 1,626,117 issued to T.B. Munroe. The Munroe patent teaches a hardwood floor whereby complete hardwood floors, or sections thereof, are manufactured by securing hardwood planks to a fibrous board. The hardwood floors are manufactured at a remote factory and are transported to the desired location of the hardwood floor. The hardwood floors are installed by dropping the fibrous board carrying the hardwood planks onto the desired location of sub-flooring and securing the fibrous board to the sub-flooring using nails, screws, or glue. This type of hardwood floor is limited in that it must be secured to the sub-flooring by

way of nails, staples, or glue. This makes the hardwood floor substantially permanent and complicates the installation process.

BRIEF SUMMARY OF THE INVENTION

[0008] In accordance with various features of the present invention there is provided a floor apparatus for providing a hardwood floor that is prefabricated at a remote location and installed with substantially more ease and efficiency than conventional hardwood floors. The floor apparatus includes a rigid board to which planks of hardwood are secured in an aesthetic manner. A non-slip pad is also secured to the rigid board, but at the face opposite that of the hardwood planks. The non-slip pad includes a frictional characteristic that prevents the floor apparatus from sliding on a surface, such as a sub-flooring, in response to force components parallel to the sub-flooring. The floor apparatus is installed by simply placing the floor apparatus on a sub-flooring such that the non-slip pad mechanically engages the sub-flooring. Additional post installation steps are typically taken to promote an aesthetic integration of the floor apparatus with the existing floor, such as trimming and tucking surrounding carpet to provide a fluid transition from the floor apparatus to the surrounding carpet. The fluid transition also eliminates jagged flooring that potentially causes individuals to trip.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0009] The above-mentioned features of the invention will become more clearly understood from the following detailed description of the invention read together with the drawings in which:

Figure 1 is an illustration of a floor apparatus in accordance with various features of the present invention.

Figure 2 illustrates preparational steps for the installation of the floor apparatus of Figure 1.

Figure 3 is an illustration of the floor apparatus of Figure 1 subsequent to installation.

Figure 4 is an illustration of the floor apparatus of Figure 1 depicting a cosmetically pleasing integration of the floor apparatus with the surrounding flooring.

DETAILED DESCRIPTION OF THE INVENTION

[0010] One embodiment of a floor apparatus for providing a hardwood floor that is prefabricated at a remote location and installed with substantially more ease and efficiency than conventional hardwood floors and constructed in accordance with the various features of the present invention is illustrated generally at **10** in Figure 1. The floor apparatus **10** includes a rigid board to which planks of hardwood are secured in an aesthetic manner. A non-slip pad is also secured to the hardboard, but at the face opposite that of the hardwood planks. The non-slip pad includes a frictional characteristic that prevents the floor apparatus **10** from sliding on a surface, such as a sub-flooring, in response to force components parallel to the sub-flooring. The floor apparatus **10** is installed by simply placing the floor apparatus **10** on a sub-flooring such that the non-slip pad mechanically engages the sub-flooring. Additional post installation steps are typically taken to promote an aesthetic integration of the floor apparatus **10** with the existing floor, such as trimming and tucking surrounding carpet to provide a fluid transition from the floor apparatus **10** to the surrounding carpet. The fluid transition also eliminates jagged flooring that potentially causes individuals to trip.

[0011] Figure 1 illustrates a floor apparatus **10** in accordance with various features of the present invention. The floor apparatus **10** includes a rigid board **12**, which, in the illustrated embodiment, is a cut of hardboard. Those skilled in the art will recognize that other materials may be used for the rigid board **12** without departing from the scope or spirit of the present invention. The rigid board **12** provides structural foundation for the floor apparatus **10**, permitting the floor apparatus **10** to be prefabricated at a remote location and transported to the desired location of the floor for installation.

[0012] A layer of hardwood **14** is disposed on the top side of the rigid board **12** in an aesthetic manner. In the illustrated embodiment, the hardwood **14** is a

engineered plank hardwood, and each plank of the hardwood is secured to the rigid board **12** by way of a wood glue. Those skilled in the art will recognize that other ways of securing the hardwood **14** to the rigid board **12** may be used without departing from the scope or spirit of the present invention and that different types of hardwood may be used without departing from the scope or spirit of the present invention.

[0013] A non-slip pad **16** is secured to the bottom side of the rigid board **12** by way of an adhesive, the bottom side of the rigid board **12** being opposite the top side of the rigid board **12**. The non-slip pad **16** of the illustrated embodiment is a laminate pad, however, those skilled in the art will recognize that other materials may be used for the non-slip pad **16** without departing from the scope or spirit of the present invention. Those skilled in the art will also recognize that the non-slip pad **16** may be secured to the rigid board **12** by a way other than adhesive without departing from the scope or spirit of the present invention. The non-slip pad **16** includes a compositional characteristic that promotes a high frictional force between the non-slip pad **16** and any surface it engages. Consequently, when the non-slip pad **16** of the floor apparatus **10** is placed in mechanical contact with a surface such as a sub-flooring, the floor apparatus **10** remains stationary even under the influence of force components with directions parallel to the surface on which the floor apparatus **10** is disposed.

[0014] The floor apparatus **10** is typically prefabricated in that it is manufactured prior to installation at a remote location with respect to the desired location of the hardwood floor. At the time of fabrication, or anytime prior to the installation of the floor apparatus **10**, the floor apparatus **10** is cut to a tailored shape and size such that the floor apparatus **10** cooperates with the corresponding desired location for the floor apparatus **10**. Those skilled in the art will recognize that the floor apparatus **10** may be tailor cut prior to the fabrication of the floor apparatus **10** by cutting each individual component of the floor apparatus **10** prior to combining the components.

[0015] Because the floor apparatus **10** is prefabricated, installation of the floor apparatus **10** is minimal. Figure 2 illustrates the preliminary step of exposing

the sub-flooring at the desired location of the floor apparatus **10**. In the illustrated embodiment, the existing floor in which the floor apparatus **10** is integrated includes a carpet **18**. A portion of the carpet **18** is cut and removed from a sub-flooring **20** at the desired location of the floor apparatus **10**. Those skilled in the art will recognize that exposing the sub-flooring is not limited to cutting and removing carpet. It is understood that the step of exposing the sub-flooring varies in method depending on the condition of the existing floor at the desired location of the floor apparatus **10**. After the sub-flooring **20** at the desired location of the floor apparatus **10** is exposed, it is rid of any debris such as dirt, dust, trash, loose screws, or loose nails. The sub-flooring **20** is then substantially leveled by nailing down any "high spots" or protruding elements such as nails or screws.

[0016] Figure 3 illustrates an installed floor apparatus **10** in accordance with various features of the present invention. The installation of the floor apparatus **10** simply includes placing the floor apparatus **10** at the desired location such that the non-slip pad **16** mechanically engages the sub-flooring **20**. As previously discussed, the floor apparatus **10** does not require nails, screws, glue, or any other securing mechanism to prevent the floor apparatus **10** from becoming displaced from its designed position. The non-slip pad **16** promotes a frictional bond between the floor apparatus **10** and the sub-flooring **20** such that the floor apparatus **10** remains in its designed position regardless forces exerted on the floor apparatus **10**.

[0017] In the illustrated embodiment, the floor apparatus **10** is abutted to the corner of a room such that the carpet **18** borders two edges of the floor apparatus **10**. Because of this, tack strips **22** are disposed at the sub-flooring **20** such that they are geometrically parallel to the edges of the floor apparatus **10** that are bordered by the carpet **18**. The tack strips **22** are positioned a substantially small distance from the floor apparatus **10**, about 0.25 inches. The carpet **18** is secured to the tack strips **22** in a conventional manner and then trimmed such that a substantially small portion of the carpet **18** extends past the track strips **22** in the direction of the floor apparatus **10**. The extending carpet is tucked between the tack strip **22** and the floor apparatus **10** such that there is a fluid transition from the carpet **18** to the floor apparatus **10**, as illustrated in Figure 4.

[0018] Those skilled in the art will recognize that some locations in which the floor apparatus **10** is installed do not include carpet. Further, those skilled in the art will recognize that there are many floor types in which the floor apparatus **10** is integrated. In view of this, those skilled in the art will recognize that the previously discussed steps involving the alteration of the existing carpet **18** are not applicable in all embodiments of the present invention.

[0019] From the foregoing description, those skilled in the art will recognize that an apparatus for providing a hardwood floor to an existing structure offering advantages over the prior art has been provided. The apparatus provides a prefabricated hardwood floor that is manufactured at a remote location and transported to the desired location of the floor for installation. Further, the apparatus provides a minimal installation process that does not require the use of nails, screws, glue, or other securing mechanisms.

[0020] While the present invention has been illustrated by description of several embodiments and while the illustrative embodiments have been described in considerable detail, it is not the intention of the applicant to restrict or in any way limit the scope of the appended claims to such detail. Additional advantages and modifications will readily appear to those skilled in the art. The invention in its broader aspects is therefore not limited to the specific details, representative apparatus and methods, and illustrative examples shown and described. Accordingly, departures may be made from such details without departing from the spirit or scope of applicant's general inventive concept.